E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XC784]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Marine Site Characterization Surveys in the New York Bight

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an Incidental Harassment Authorization (IHA) to Bluepoint Wind, LLC (BPW) to incidentally harass marine mammals during marine site characterization surveys in coastal waters off of New York and New Jersey in the New York Bight, specifically within the Bureau of Ocean Energy Management (BOEM) Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (Lease) Area OCS-A 0537 and associated export cable route (ECR) area.

DATES: This Authorization is effective from March 1, 2023 through February 29, 2024.

FOR FURTHER INFORMATION CONTACT: Jenna Harlacher, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-bluepoint-wind-llc-marine-site-characterization-surveys-new*. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the "take" of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq*.) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On August 18, 2022, NMFS received a request from BPW for an IHA to take marine mammals incidental to marine site characterization surveys in coastal waters off of New York and New Jersey in the New York Bight, specifically within the BOEM Lease Area OCS-A 0537 and associated ECR area. Following NMFS' review of the application, the application was deemed adequate and complete on October 25, 2022. BPW's request is for take of small numbers of 15 species (16 stocks) of marine mammals

by Level B harassment only. Neither BPW nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate. There are no changes from the proposed IHA to the final IHA.

Description of Activity

Overview

BPW plans to conduct marine site characterization surveys, including high-resolution geophysical (HRG) surveys, in coastal waters off of New Jersey and New York in the New York Bight, specifically within the BOEM Lease Area OCS-A 0537 and associated ECR area.

The planned marine site characterization surveys are designed to obtain data sufficient to meet BOEM guidelines for providing geophysical, geotechnical, and geohazard information for site assessment plan surveys and/or construction and operations plan development. The objective of the surveys is to support the site characterization, siting, and engineering design of offshore wind project facilities including wind turbine generators, offshore substations, and submarine cables within the Lease Area. At least two survey vessels will operate as part of the planned surveys with a maximum of two nearshore (<20 meters (m)) vessels and a maximum of two offshore (>20 m) vessels operating concurrently. Underwater sound resulting from BPW's marine site characterization survey activities, specifically HRG surveys, have the potential to result in incidental take of marine mammals in the form of Level B harassment.

Dates and Duration

The survey is planned to begin as early as March 1, 2023 and estimated to require 432 survey days across a maximum of two nearshore and two offshore vessels operating concurrently within a single year. A “survey day” is defined as a 24-hour (hr) activity period in which active acoustic sound sources are used. It is expected that each vessel would cover approximately 170 kilometers (km) per day based on the applicant's

expectations regarding data acquisition efficiency, and there is up to 23,191 km of track line of survey effort planned. The IHA would be effective for one year from the date of issuance.

Specific Geographic Region

BPW's survey activities would occur in coastal waters off of New York and New Jersey in the New York Bight, specifically within Lease Area OCS-A 0537 and the ECR area (Figure 1). Water depths in the OCS Lease Area are between 50 m and 60 m. Water depths in the ECR area are between 5 m and 60 m.

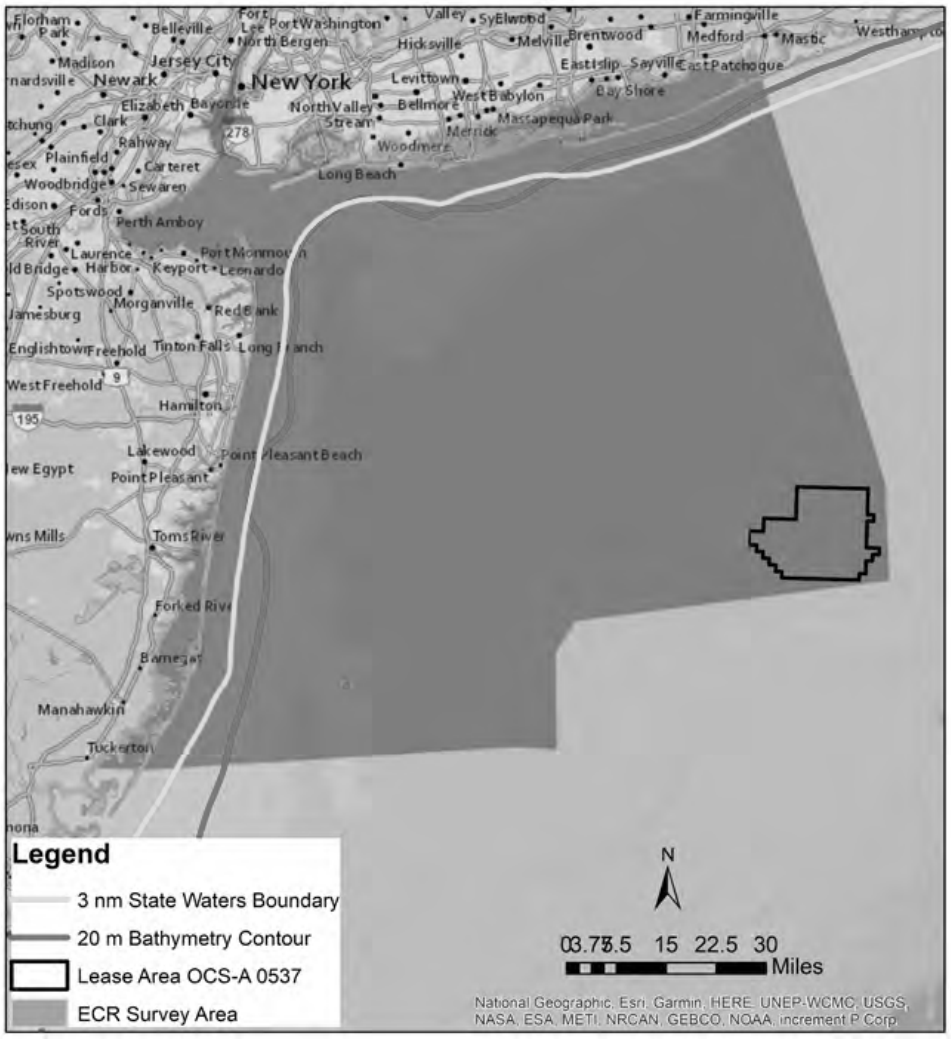

Figure 1. Survey area

Detailed Description of Specified Activity

BPW plans to conduct HRG survey operations, including multibeam depth sounding, seafloor imaging, and shallow and medium penetration sub-bottom profiling. The HRG surveys will include the use of seafloor mapping equipment with operating frequencies above 180 kilohertz (kHz) (*e.g.,* side-scan sonar (SSS), multibeam echosounders (MBES)); gradiometers that have no acoustic output; non-impulsive, parametric sub-bottom profilers (SBPs) with narrow beamwidth; and medium-penetration sub-bottom profiling (SBP) equipment (*e.g.,* boomers and sparkers) with operating frequencies below 180 kilohertz (kHz). No deep-penetration SBP surveys (*e.g.,* airgun or bubble gun surveys) will be conducted.

There are two possible options for BPW's surveys in the Lease area using a sparker system (Dual Geo-Spark 2000X). Under Option One, one Dual Geo-Spark 2000X would be used at a minimum of 30 m line spacing with tieline spacing of 500 m for a total survey distance of 9,923 km in the Lease Area. Under Option Two, up to four Dual Geo-Spark 2000X would be towed to conduct an Ultra High Resolution 3-dimensional (UHR3D) survey. The sparkers would be fired sequentially such that only one is fired at a time with 0.33 seconds between shots. The sparkers would be physically spaced 25 m apart for a total spread of 75 m. The tracklines would be similar to those for the single sparker; however, they would be spaced a minimum of 43.75 m apart with tielines spaced at 500 m for a shorter total survey distance of 6,814 km. Since BPW may

use either method, this analysis is based on the more impactful of the two options (Option 1), which has the larger total line-km.

In the ECR area, either a boomer or sparker will be used. Regardless of which system is used, BPW plans to conduct the survey with a minimum of 30 m line spacing and tielines spaced at 500 m intervals in Federal waters through potential cable corridors and at a minimum of 15 m line spacing and tielines spaced at 500 m in State waters for a total of 13,268 km of combined tracklines and tielines.

Further detail regarding the planned HRG surveys is provided in the **Federal Register** notice for the proposed IHA (88 FR 2325; January 13, 2023). Since that time, no changes have been made to the planned HRG survey activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for additional, detailed description of the specific activity.

Comments and Responses

A notice of NMFS' proposal to issue an IHA to BPW was published in the Federal Register on January 13, 2023 (88 FR 2325). That notice described, in detail, BPW's planned activities, the marine mammal species that may be affected by the activities, and the anticipated effects on marine mammals. In that notice, we requested public input on the request for authorization described therein, our analyses, the proposed authorization, and any other aspect of the notice of proposed IHA, and requested that interested persons submit relevant information, suggestions, and comments. This proposed notice was available for a 30-day public comment period.

NMFS received ten comment letters from private citizens. All of these expressed general opposition to issuance of the IHA or to the underlying associated activities. We reiterate here that NMFS' proposed actions concern only the authorization of marine mammal take incidental to the planned surveys—NMFS' authority under the MMPA does not extend to the surveys themselves, or to wind energy development more

generally. Further, NMFS does not have discretion regarding issuance of requested incidental take authorizations pursuant to the MMPA, assuming (1) the total taking associated with a specified activity will have a negligible impact on the affected species or stock(s); (2) the total taking associated with a specified activity will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (not relevant here); (3) the total taking associated with a specified activity is small numbers of marine mammals of any species or stock; and (4) appropriate mitigation, monitoring, and reporting of such takings are set forth, including mitigation measures sufficient to meet the standard of least practicable adverse impact on the affected species or stocks. Many of these comments received request that NMFS not issue any of the IHAs and/or express disdain for wind energy development generally, but without providing information relevant to NMFS' decisions. We do not specifically address comments expressing general opposition to activities related to wind energy development.

Five of these letters provided general concerns regarding recent whale stranding events on the Atlantic Coast, including speculation that the strandings may be related to wind energy development-related activities. However, the commenters did not provide any specific information supporting these concerns. Therefore, we refer those commenters to the analyses herein, and do not specifically address these comments.

Additionally, NMFS received letters from two non-governmental organizations, Responsible Offshore Development Alliance (RODA) and Friends of Animals (FoA). All substantive comments, and NMFS' responses, are provided below, and all letters are available online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-bluepoint-wind-llc-marine-site-characterization-surveys-new*). Please review the letters for full details regarding the comments and underlying justification.

Comment 1: RODA states that, to their knowledge, there are no resources easily accessible to the public to understand what authorizations are required for each of these activities (pre-construction surveys, construction, operations, monitoring surveys, etc.). RODA recommends that NMFS improve the transparency of this process and move away from what it refers to as a "segmented phase-by-phase and project-by-project approach to IHAs."

Response: The MMPA, and its implementing regulations, allows, upon request, the incidental take of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographic region. NMFS responds to these requests by authorizing the incidental take of marine mammals if it is found that the taking would be of small numbers, have no more than a "negligible impact' on the marine mammal species or stock, and not have an "unmitigable adverse impact" on the availability of the species or stock for subsistence use. NMFS emphasizes that an IHA does not authorize the activity itself but authorizes the take of marine mammals incidental to the "specified activity" for which incidental take coverage is being sought. In this case, NMFS is responding to the applicant, BPW, and the specified activity described in their application and making necessary findings on the basis of what was provided in their application. The authorization of BPW's activity (note, not the authorization of takes incidental to that activity) is not within the jurisdiction of NMFS. NMFS refers RODA to the Permitting Dashboard for Federal Infrastructure Projects for further information on timelines and proposed authorizations planned for application for each of these activities: *https://www.permits.performance.gov/.*

NMFS is required to consider applications upon request. To date, NMFS has not received any joint applications. While an individual company owning multiple lease areas may apply for a single authorization to conduct site characterization surveys across a combination of those lease areas (85 FR 63508, October 8, 2020; 87 FR 13975, March

11, 2022), this is not applicable in this case. In the future, if applicants wish to undertake this approach, NMFS is open to the receipt of joint applications and additional discussions on joint actions.

Comment 2: RODA expressed concern regarding the potential for increased uncertainty in estimates of marine mammal abundance resulting from wind turbine presence during aerial surveys and potential effects of NMFS' ability to continue using current aerial survey methods to fulfill its mission of precisely and accurately assessing protected species.

Response: NMFS has determined that offshore wind development projects may impact several surveys carried out by its Northeast Fisheries Science Center (NEFSC), including aerial surveys for protected species. NEFSC has developed a Federal survey mitigation program to mitigate the impacts to these surveys, and is in the early stages of implementing this program. However, this impact is outside the scope of analysis related to the authorization of take incidental to BPW's specified activity under the MMPA.

Comment 3: RODA expressed concerns with the high amount of increased vessel traffic associated with the Offshore Wind (OSW) projects throughout the region in areas transited or utilized by certain protected resources, as well as concern for vessel noise and increased risk for vessel strikes.

Response: BPW did not request authorization for take incidental to vessel traffic during BPW's marine site characterization survey. Nevertheless, NMFS analyzed the potential for vessel strikes to occur during the survey, and determined that the potential for vessel strike is so low as to be discountable. For this IHA, NMFS did not authorize any take of marine mammals incidental to vessel strike resulting from the survey. If BPW were to strike a marine mammal with a vessel, this would be an unauthorized take and be in violation of the MMPA. This gives BPW a strong incentive to operate its vessels with all due caution and to effectively implement the suite of vessel strike avoidance measures

called for in the IHA. BPW proposed a very conservative suite of mitigation measures related to vessel strike avoidance, including measures specifically designed to avoid impacts to North Atlantic right whales. Section 4(l) in the IHA contains a suite of non-discretionary requirements pertaining to ship strike avoidance, including vessel operation protocols and monitoring. NMFS takes seriously the risk of vessel strike and has prescribed measures sufficient to avoid the potential for ship strike to the extent practicable. NMFS has required these measures despite a very low likelihood of vessel strike; vessels associated with the survey activity will add a discountable amount of vessel traffic to the specific geographic region and, furthermore, vessels towing survey gear travel at very slow speeds (*i.e.*, roughly 4-5 knots (kn) (7.41- 9.26 km/ hour)).

To date, NMFS is not aware of any site characterization vessel from surveys reporting a vessel strike within the United States. When considered in the context of low overall probability of any vessel strike by BPW vessels, given the limited additional survey-related vessel traffic relative to existing traffic in the survey area, the comprehensive visual monitoring, and other additional mitigation measures described herein, NMFS believes these measures are sufficiently protective to avoid ship strike. These measures are described fully in the Mitigation section below, and include, but are not limited to: training for all vessel observers and captains, daily monitoring of North Atlantic right whale Sighting Advisory System, WhaleAlert app, and USCG Channel 16 for situational awareness regarding North Atlantic right whale presence in the survey area, communication protocols if whales are observed by any BPW personnel, vessel operational protocol should any marine mammal be observed, and visual monitoring.

The potential for impacts related to an overall increase in the amount of vessel traffic due to OSW development is separate from the aforementioned analysis of potential for vessel strike during BPW's specified survey activities.

Comment 4: RODA defers to the Marine Mammal Commission's previous comments on the matter of effects on marine mammals from offshore wind development, expressing that "they are more knowledgeable on impacts of pile driving and acoustics to marine mammals".

Response: In response to RODA's deferral to the Marine Mammal Commission, the Commission, the agency charged with advising Federal agencies on the impacts of human activity on marine mammals, has questioned in its previous public comment whether incidental take authorizations are even necessary for surveys utilizing HRG equipment (*i.e.,* take is unlikely to occur), and has subsequently informed NMFS that they would no longer be commenting on such actions, including BPW's activity described herein. Additionally, comments related to pile driving and OSW construction are outside the scope of this IHA and, therefore, are not discussed.

Comment 5: RODA defers to the September 9, 2020 letter submitted by seventeen Environmental NRGs and echoes their concerns.

Response: NMFS refers RODA to the **Federal Register** notice 85 FR 63508 (October 8, 2020) for previous responses to the Environmental NGOs' previous letter of which RODA references and defers expertise to.

Comment 6: RODA expressed concern that negative impacts to local fishermen and coastal communities as a result of a potentially adverse impact to marine mammals (*e.g.,* vessel strike resulting in death or severe injury) were not mentioned nor evaluated in "the IHA request for this project". Private Citizens and RODA also emphasized concern about the alleged lack of adequate analysis of individual and cumulative impacts to marine mammals, RODA noting existing fishery restrictions as a result of other North Atlantic right whale protections.

Response: Neither the MMPA nor our implementing regulations require NMFS to analyze impacts to other industries (*e.g.,* fisheries) or coastal communities from issuance

of an ITA. Nevertheless, as detailed in the proposed IHA notice and in our response to comment 3, NMFS has analyzed the potential for adverse impacts such as vessel strikes to marine mammals, including North Atlantic right whales, as a result of BPW's planned site characterization survey activities and determined that no serious injury or mortality is anticipated. In fact, as discussed in the **Negligible Impact Analysis and Determination** section, later in this document, no greater than low-level behavioral harassment is expected for any affected species. For North Atlantic right whale in particular, it is considered unlikely, as a result of the required precautionary shutdown zone (*i.e.,* 500 m versus the estimated maximum Level B harassment zone of 141 m), that the authorized take would occur at all. Thus, NMFS would also not anticipate the impacts RODA raises as a result of issuing this IHA for site characterization survey activities to BPW.

In regards to cumulative impacts, neither the MMPA nor NMFS' codified implementing regulations call for consideration of other unrelated activities and their impacts on populations. The preamble for NMFS' implementing regulations (54 FR 40338; September 29, 1989) states in response to comments that the impacts from other past and ongoing anthropogenic activities are to be incorporated into the negligible impact analysis via their impacts on the baseline. Consistent with that direction, NMFS has factored into its negligible impact analysis the impacts of other past and ongoing anthropogenic activities via their impacts on the baseline, *e.g.,* as reflected in the density/distribution and status of the species, population size and growth rate, and other relevant stressors. The 1989 final rule for the MMPA implementing regulations also addressed public comments regarding cumulative effects from future, unrelated activities. There NMFS stated that such effects are not considered in making findings under section 101(a)(5) concerning negligible impact. In this case, this IHA, as well as other IHAs currently in effect or proposed within the specified geographic region, are appropriately considered an unrelated activity relative to the others. The IHAs are unrelated in the

sense that they are discrete actions under section 101(a)(5)(D), issued to discrete applicants.

Section 101(a)(5)(D) of the MMPA requires NMFS to make a determination that the take incidental to a "specified activity" will have a negligible impact on the affected species or stocks of marine mammals. NMFS' implementing regulations require applicants to include in their request a detailed description of the specified activity or class of activities that can be expected to result in incidental taking of marine mammals. 50 CFR 216.104(a)(1). Thus, the "specified activity" for which incidental take coverage is being sought under section 101(a)(5)(D) is generally defined and described by the applicant. Here, BPW was the applicant for the IHA, and we are responding to the specified activity as described in that application (and making the necessary findings on that basis).

Through the response to public comments in the 1989 implementing regulations, NMFS also indicated (1) that we would consider cumulative effects that are reasonably foreseeable when preparing a NEPA analysis, and (2) that reasonably foreseeable cumulative effects would also be considered under section 7 of the Endangered Species Act (ESA) for ESA-listed species, as appropriate. Accordingly, NMFS has written Environmental Assessments (EA) that addressed cumulative impacts related to substantially similar activities, in similar locations, *e.g.,* the 2019 Avangrid EA for survey activities offshore North Carolina and Virginia; the 2017 Ocean Wind, LLC EA for site characterization surveys off New Jersey; and the 2018 Deepwater Wind EA for survey activities offshore Delaware, Massachusetts, and Rhode Island. Cumulative impacts regarding issuance of IHAs for site characterization survey activities such as those planned by BPW have been adequately addressed under NEPA in prior environmental analyses that support NMFS' determination that this action is appropriately categorically excluded from further NEPA analysis. NMFS independently evaluated the use of a

categorical exclusion (CE) for issuance of BPW's IHA, which included consideration of extraordinary circumstances.

Separately, the cumulative effects of substantially similar activities in the northwest Atlantic Ocean have been analyzed in the past under section 7 of the ESA when NMFS has engaged in formal intra-agency consultation, such as the 2013 programmatic Biological Opinion for BOEM Lease and Site Assessment Rhode Island, Massachusetts, New York, and New Jersey Wind Energy Areas (*https://repository.library.noaa.gov/view/noaa/29291*). Analyzed activities include those for which NMFS issued previous IHAs (82 FR 31562, July 7, 2017; 83 FR 28808, June 21, 2018; 83 FR 36539, July 30, 2018; 86 FR 26465, May 10, 2021), which are similar to those planned by BPW under this current IHA request. This Biological Opinion determined that NMFS' issuance of IHAs for site characterization survey activities associated with leasing, individually and cumulatively, are not likely to adversely affect listed marine mammals. NMFS notes that, while issuance of this IHA is covered under a different consultation, this BiOp remains valid.

Comment 7: RODA expressed interest in understanding the outcome if the number of actual takes exceed the number authorized during construction of an offshore wind project (*i.e.,* would the project be stopped mid-construction or operation), and how offshore wind developers will be held accountable for impacts to protected species such that impacts are not inadvertently assigned to fishermen, should they occur. Lastly, RODA maintains that the OSW industry must be accountable for incidental takes from construction and operations separately from the take authorizations for managed commercial fish stocks.

Response: It is important to recognize that an IHA does not authorize the activity but authorizes take of marine mammals incidental to the activity. As described in condition 3(b) and (c) of the IHA, authorized take, by Level B harassment only, is limited

to the species and numbers listed in Table 1 of the final IHA, and any taking exceeding the authorized amounts listed in Table 1 is prohibited and may result in the modification, suspension, or revocation of the IHA. As described in condition 4(k)(v), shutdown of acoustic sources is required upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the Level B harassment zone.

It is unclear why RODA would be concerned that the OSW developers are responsible for their own impacts and "the burdens of those are not also assigned to fishermen". Fishing impacts generally center on entanglement in fishing gear, which is a very acute, visible, and severe impact. In contrast, the pathway by which impacts occur incidental to construction or site characterization survey activities, such as those planned by BPW here, is primarily acoustic in nature. Regardless, NMFS reiterates that this IHA does not authorize take incidental to construction activities, but site characterization survey activities, and any take beyond that authorized would be in violation of the MMPA. It is BOEM's responsibility as the permitting agency to make decisions regarding ceasing BPW's overall offshore wind development activities, not NMFS. If the case suggested by RODA does occur, NMFS would work with BOEM and BPW to determine the most appropriate means by which to ensure compliance with the MMPA. The impacts of commercial fisheries on marine mammals and incidental take for said fishing activities are indeed managed separately from those of non-commercial fishing activities such as offshore wind site characterization surveys (MMPA section 118).

Comment 8: RODA urges NMFS to use the best available science including the most comprehensive models for estimating marine mammal take and developing robust mitigation measures. Additionally, RODA encourages NMFS to evaluate the proposed IHA with the best available science.

Response: NMFS utilizes the best available science when analyzing which species may be impacted by an applicant's proposed activities. NMFS has carefully reviewed the best available scientific information in assessing impacts to marine mammals, and recognizes that the surveys have the potential to impact marine mammals through behavioral effects, stress responses, and auditory masking.

NMFS considered the best available science regarding both recent habitat usage patterns for the study area and up-to-date seasonality information in the notice of the proposed IHA, including consideration of existing BIAs and densities provided by Roberts *et al.* (2021). To limit the potential severity of any possible behavioral disruptions, NMFS has prescribed a robust suite of mitigation measures, including extended distance shutdowns for North Atlantic right whale, that are expected to further reduce the duration and intensity of acoustic exposure. As described in the **Mitigation** section, NMFS has determined that the prescribed mitigation requirements are sufficient to effect the least practicable adverse impact on all affected species or stocks.

Lastly, as we stated in the notice of proposed IHA (88 FR 2325; January 13, 2023), any impacts to marine mammals are expected to be temporary and minor and, given the relative size of the survey area. Because of this, and in context of the minor, low-level nature of the impacts expected to result from the planned survey, such impacts are not expected to result in disruption to biologically important behaviors.

Comment 10: RODA and FOA insist that NMFS must consider whether authorization of additional OSW related activities should be allowed, given the recent whale strandings in the area. FOA and private citizens additionally urge NMFS to postpone any OSW activities until NMFS determines effects of all OSW activities on marine mammals in the region, and determines that the recent whale deaths are not related to OSW actions.

Response: A moratorium or stop to additional OSW related activities due to the recent whale deaths is not within NMFS jurisdiction. BOEM is the agency with the authority to approve or disapprove a developer's Site Assessment Plan. NMFS authorizes take of marine mammals incidental to surveys but does not authorize the surveys. Therefore, while NMFS has the authority to modify, suspend, or revoke an IHA if the IHA holder fails to abide by the conditions prescribed therein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines that (1) the authorized taking is having or is likely to have more than a negligible impact on the species or stocks of affected marine mammals, or (2) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat, it is not within NMFS jurisdiction to impose a moratorium on offshore wind development or to require surveys to cease on the basis of unsupported speculation.

Currently, there are active "Unexplained Mortality Events" (UME's) for both humpback whales and North Atlantic right whales in the areas of the recent stranding's. These UME's were both declared in 2017. See further discussion of this in the **Negligible Impact Analysis and Determination** section later in the notice.

Additionally, marine site characterization surveys have an extremely low risk of whale related injury or death. As mentioned above in *Comment 3*, while NMFS acknowledges that vessel strikes can result in injury or mortality, we have analyzed the potential for vessel strike resulting from BPW's activity and have determined that based on the nature of the activity and the required mitigation measures specific to vessel strike avoidance included in the IHA, potential for vessel strike is so low as to be discountable.

The required mitigation measures, all of which were included in the proposed IHA and are now required in the final IHA, include: A requirement that all vessel operators comply with 10 kn (18.5 km/hour) or less speed restrictions in any Seasonal

Management Area (SMA), Dynamic Management Area (DMA) or Slow Zone while underway, and check daily for information regarding the establishment of mandatory or voluntary vessel strike avoidance areas (SMAs, DMAs, Slow Zones) and information regarding North Atlantic right whales sighting locations; a requirement that all vessels greater than or equal to 19.8 m in overall length operating from November 1 through April 30 operate at speeds of 10 kn (18.5 km/hour) or less; a requirement that all vessel operators reduce vessel speed to 10 kn (18.5 km/hour) or less when any large whale, any mother/calf pairs, pods, or large assemblages of non-delphinid cetaceans are observed near the vessel; a requirement that all survey vessels maintain a separation distance of 500 m or greater from any ESA-listed whales or other unidentified large marine mammals visible at the surface while underway; a requirement that, if underway, vessels must steer a course away from any sighted ESA-listed whale at 10 kn (18.5 km/hour) or less until the 500 m minimum separation distance has been established; a requirement that, if an ESA-listed whale is sighted in a vessel's path, or within 500 m of an underway vessel, the underway vessel must reduce speed and shift the engine to neutral; a requirement that all vessels underway must maintain a minimum separation distance of 100 m from all non-ESA-listed baleen whales; and a requirement that all vessels underway must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all other marine mammals, with an understanding that at times this may not be possible (*e.g.*, for animals that approach the vessel). We have determined that the vessel strike avoidance measures in the IHA are sufficient to ensure the least practicable adverse impact on species or stocks and their habitat. Furthermore, no documented vessel strikes have occurred for any marine site characterization surveys which were issued IHAs from NMFS during the survey activities themselves or while transiting to and from survey sites.

NMFS reiterates that use of the planned sources is not expected to have any potential to cause injury of any species even in the absence of mitigation. Consideration of the anticipated effectiveness of the mitigation measures (*i.e.*, shutdown zones and shutdown measures) discussed below and in the **Mitigation** section of this notice further strengthens the conclusion that injury is not a reasonably anticipated outcome of the survey activity. Nevertheless, there are several shutdown requirements described in the **Federal Register** notice of the proposed IHA (88 FR 2325; January 13, 2023), and which are included in the final IHA, including the stipulation that geophysical survey equipment must be immediately shut down if any marine mammal is observed within or entering the relevant Shutdown Zone while geophysical survey equipment is operational. There is no exemption for the shutdown requirement for North Atlantic right whales and ESA-listed species.

The best available science indicates that Level B harassment, or disruption of behavioral patterns, may occur. No mortality or serious injury is expected to occur as a result of the planned surveys, and there is no scientific evidence indicating that any marine mammal could experience these as a direct result of noise from geophysical survey activity. Authorization of mortality and serious injury may not occur via IHAs, only within Incidental Take Regulations (ITRs), and such authorization was neither requested nor proposed. NMFS notes that in its history of authorizing take of marine mammals, there has never been a report of any serious injuries or fatalities of a marine mammal related to the site characterization surveys.

NMFS emphasizes that there is no credible scientific evidence available suggesting that mortality and/or serious injury is a potential outcome of the planned survey activity. We also refer to the GARFO 2021 Programmatic Consultation, which finds that these survey activities are in general not likely to adversely affect ESA-listed marine mammal species, *i.e.*, GARFO's analysis conducted pursuant to the ESA finds

that marine mammals are not likely to be taken at all (as that term is defined under the ESA), much less be taken by serious injury or mortality. That document is found here: *https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-take-reporting-programmatics-greater-atlantic#offshore-wind-site-assessment-and-site-characterization-activities-programmatic-consultation*.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to these descriptions, incorporated here by reference, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs; *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.*, physical and behavioral descriptions) may be found on NMFS' website (*https://www.fisheries.noaa.gov/find-species)*.

Table 1 lists all species or stocks for which take is expected and authorized for this activity, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or authorized here, PBR and annual serious injury and mortality from

anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' US Atlantic and Gulf of Mexico SARs. All values presented in Table 1 are the most recent available at the time of publication (including from the draft 2022 SARs) and are available online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*.

Table 1. Species Likely Impacted by the Specified Activities

Common Name	Scientific Name	Stock	ESA/MMPA status; strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Order Artiodactyla—Infraorder Cetacea— Mysticeti (baleen whales)						
Family Balaenidae						
North Atlantic right whale	*Eubalaena glacialis*	Western Atlantic Stock	E/D, Y	338 (0; 332; 2020)	0.7	8.1
Family Balaenopteridae						
Humpback whale	*Megaptera novaeangliae*	Gulf of Maine	-/-; Y	1,396 (0; 1,380; 2016)	22	12.15
Fin whale	*Balaenoptera physalus*	Western North Atlantic Stock	E/D, Y	6,802 (0.24; 5,573; 2016)	11	1.8

Common Name	Scientific Name	Stock	ESA/MMPA status; strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Sei whale	*Balaenoptera borealis*	Nova Scotia Stock	E/D, Y	6,292 (1.02; 3,098; 2016)	6.2	0.8
Minke whale	*Balaenoptera acutorostrata*	Canadian East Coastal Stock	-/-, N	21,968 (0.31; 17,002; 2016)	170	10.6
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Physeteridae:						
Sperm whale	*Physeter macrocephalus*	North Atlantic Stock	E/D, Y	4,349 (0.28; 3,451; 2016)	3.9	0
Family Delphinidae:						
Long-finned pilot whale	*Globicephala melas*	Western North Atlantic Stock	-/-, N	39,215 (0.3; 30,627; 2016)	306	29
Atlantic white-sided dolphin	*Lagenorhynchus acutus*	Western North Atlantic Stock	-/-, N	93,233 (0.71; 54,443; 2016)	544	227
Bottlenose dolphin	*Tursiops truncatus*	Western North Atlantic Offshore Stock	-/-, N	62,851 (0.23; 51,914; 2016)	519	28
		Northern Migratory Coastal	-/D, Y	6,639 (0.41; 4,759; 2016)	48	12.2-21.5

Common Name	Scientific Name	Stock	ESA/MMPA status; strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Common dolphin	*Delphinus delphis*	Western North Atlantic Stock	-/-, N	172,974 (0.21, 145,216, 2016)	1,452	390
Atlantic spotted dolphin	*Stenella frontalis*	Western North Atlantic Stock	-/-, N	39,921 (0.27; 32,032; 2016)	320	0
Risso's dolphin	*Grampus griseus*	Western North Atlantic Stock	-/-, N	35,215 (0.19; 30,051; 2016)	301	34
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy Stock	-/-, N	95,543 (0.31; 74,034; 2016)	851	164
Order Carnivora—Superfamily Pinnipedia						
Harbor seal	*Phoca vitulina*	Western North Atlantic Stock	-/-, N	61,336 (0.08; 57,637; 2018)	1,729	339
Gray seal[4]	*Halichoerus grypus*	Western North Atlantic Stock	-/-, N	27,300 (0.22; 22,785; 2016)	1,389	4,453

[1] - ESA status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.
[2] - NMFS marine mammal stock assessment reports online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*. CV is the coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, CV is not applicable.
[3] - These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, ship strike).
[4] - NMFS' stock abundance estimate (and associated PBR value) applies to U.S. population only. Total stock abundance (including animals in Canada) is approximately 451,431. The annual mortality and serious injury (M/SI) value given is for the total stock.

A detailed description of the species likely to be affected by BPW's activities, including information regarding population trends, threats, and local occurrence, was provided in the **Federal Register** notice for the proposed IHA (88 FR 2325; January 13, 2023); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (*https://www.fisheries.noaa.gov/find-species*) for generalized species accounts.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.*, Richardson *et al.*, 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, etc.). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.*, low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 2.

Table 2. Marine Mammal Hearing Groups (NMFS, 2018)

Hearing Group	Generalized Hearing Range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz
High-frequency (HF) cetaceans (true porpoises, *Kogia*, river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*)	275 Hz to 160 kHz
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz

***** Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.* 2007) and PW pinniped (approximation).

The pinniped functional hearing group was modified from Southall *et al*. (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al*., 2006; Kastelein *et al*., 2009; Reichmuth and Holt, 2013).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effects of underwater noise from the deployed acoustic sources have the potential to result in behavioral harassment of marine mammals in the vicinity of the study area. The **Federal Register** notice for the proposed IHA (88 FR 2325; January 13, 2023) included a discussion of the effects of anthropogenic noise on marine mammals and their habitat, therefore that information is not repeated here; please refer to the **Federal Register** notice (88 FR 2325; January 13, 2023) for that information.

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes authorized through the IHA, which will inform both NMFS' consideration of "small numbers," and the negligible impact determinations.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes are by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to sound produced by the sparker or boomer. Based on the characteristics of the signals produced by the acoustic sources planned for use, Level A harassment is neither anticipated nor authorized. As described previously, no serious injury or mortality is anticipated or authorized for this activity. Below we describe how the take numbers are estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe

the factors considered here in more detail and present the take estimates.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment – Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.*, frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.*, bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.*, Southall *et al.,* 2007, 2021, Ellison *et al.*, 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS generally predicts that marine mammals are likely to be behaviorally harassed in a manner considered to be Level B harassment when exposed to underwater anthropogenic noise above root-mean-squared pressure received levels (RMS SPL) of 120 dB (referenced to 1 micropascal (re 1 μPa)) for continuous (*e.g.,* vibratory pile driving, drilling) and above RMS SPL 160 dB re 1 μPa for non-explosive impulsive (*e.g.*, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources. Generally speaking, Level B harassment take estimates based on these behavioral harassment thresholds are expected to include any likely takes by TTS as, in most cases, the likelihood of TTS occurs at distances from the source less than those at which behavioral harassment is likely. TTS of a sufficient degree can manifest as behavioral

harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur.

BPW's activities include the use of impulsive (*i.e.,* boomer and sparker) sources, and therefore, the RMS SPL thresholds of 160 dB re 1 µPa is applicable.

Level A harassment – NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive).

The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance*.

BPW's activity includes the use of impulsive (*i.e.,* boomer and sparker) sources. However, as discussed above, NMFS has concluded that Level A harassment is not a reasonably likely outcome for marine mammals exposed to noise through use of the sources proposed for use here, and the potential for Level A harassment is not evaluated further in this document. Please see BPW's application for details of a quantitative exposure analysis exercise, *i.e.,* calculated Level A harassment isopleths and estimated Level A harassment exposures. BPW did not request authorization of take by Level A harassment, and no take by Level A harassment is proposed for authorization by NMFS.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that are used in estimating the area ensonified above the acoustic thresholds, including source levels and transmission loss coefficient.

NMFS has developed a user-friendly methodology for estimating the extent of the Level B harassment isopleths associated with relevant HRG survey equipment (NMFS 2020). This methodology incorporates frequency and directionality (when relevant) to refine estimated ensonified zones. For acoustic sources that operate with different beamwidths, the maximum beamwidth was used, and the lowest frequency of the source was used when calculating the frequency-dependent absorption coefficient. The sparker planned for use by BPW are omnidirectional and, therefore, beamwidth does not factor into those calculations.

NMFS considers the data provided by Crocker and Fratantonio (2016) to represent the best available information on source levels associated with HRG survey equipment and, therefore, recommends that source levels provided by Crocker and Fratantonio (2016) be incorporated in the method described above to estimate isopleth distances to harassment thresholds. In cases where the source level for a specific type of HRG equipment is not provided in Crocker and Fratantonio (2016), NMFS recommends either the source levels provided by the manufacturer be used, or, in instances where source levels provided by the manufacturer are unavailable or unreliable, a proxy from Crocker and Fratantonio (2016) be used instead. Table 1 in the **Federal Register** notice for the proposed IHA (88 FR 2325; January 13, 2023), shows the HRG equipment type used during the planned surveys and the source levels associated with those HRG equipment types.

BPW plans to use the Dual Geo-Spark 2000X (400 tip/800J). For all source configurations, the maximum power expected to be discharged from the sparker source is 800 J. However, Crocker and Fratantonio (2016) did not measure the Dual Geo-Spark or a source with an energy of 800 J. A similar alternative system, the Applied Acoustics Dura-spark with a 400 tip, was measured by Crocker and Fratantonio (2016) with an input voltage of 500-2,000J, and these measurements were used as a proxy for the Dual

Geo-Spark. Table 1 in the **Federal Register** notice for the proposed IHA (88 FR 2325; January 13, 2023), shows the source parameters associated with this proxy. Using the measured source level of 203 dB RMS of the proxy, results of modeling indicated that the sparker would produce a distance of 141 m to the Level B harassment isopleth. BPW additionally plans to use the Applied Acoustics S-Boom. Crocker and Fratantonio (2016) did measure the Applied Acoustics S-Boom and values were used for a dual plate 300 J source setting. Using the measured source level of 196 dB RMS of the proxy, results of modeling indicated that the boomer would produce a distance of 41 m to the Level B harassment isopleth.

Results of modeling using the methodology described above indicated that, of the HRG survey equipment planned for use by BPW that has the potential to result in Level B harassment of marine mammals, the Dual Geo-Spark 2000X would produce the largest distance to the Level B harassment isopleth (141 m).

Marine Mammal Occurrence

In this section we provide information about the occurrence of marine mammals, including density or other relevant information, that will inform the take calculations.

Habitat-based density models produced by the Duke University Marine Geospatial Ecology Laboratory (Roberts *et al.,* 2016; Roberts and Halpin, 2022) represent the best available information regarding marine mammal densities in the survey area. These density data incorporate aerial and shipboard line-transect survey data from NMFS and other organizations and incorporate data from numerous physiographic and dynamic oceanographic and biological covariates, and controls for the influence of sea state, group size, availability bias, and perception bias on the probability of making a sighting. These density models were originally developed for all cetacean taxa in the U.S. Atlantic (Roberts *et al.,* 2016). In subsequent years, certain models have been updated based on additional data as well as certain methodological improvements. More

information is available online at *https://seamap.env.duke.edu/models/Duke/EC/*. Marine mammal density estimates in the survey area (animals/km^2) were obtained using the most recent model results for all taxa.

For the exposure analysis, density data from Roberts and Halpin (2022) were mapped using a geographic information system (GIS). For the survey area, the monthly densities of each species as reported by Roberts and Halpin (2022) were averaged by season; thus, a density was calculated for each species for spring, summer, fall, and winter. Density seasonal averages were calculated for both the Lease Area and the ECR Area for each species to assess the greatest average seasonal densities for each species. To be conservative since the exact timing for the survey during the year is uncertain, the greatest average seasonal density calculated for each species was carried forward in the exposure analysis, with exceptions noted later. Estimated greatest average seasonal densities (animals/km^2) of marine mammal species that may be taken by the planned survey can be found in Tables 7 and 8 of BPW's IHA application. Below, we discuss how densities were assumed to apply to specific species for which the Roberts and Halpin (2022) models provide results at the genus or guild level.

There are two stocks of bottlenose dolphins that may be impacted by the surveys (Western North Atlantic Northern Migratory Coastal Stock (Coastal Stock) and the Western North Atlantic Offshore Stock (Offshore Stock)); however, Roberts and Halpin (2022) do not differentiate by stock. The Coastal Stock is assumed to generally occur in waters less than 20 m and the Offshore Stock in waters deeper than 20 m (65-ft) isobath. The lease area is in waters deeper than 20 m and only the Offshore Stock would occur and could be potentially taken by survey effort in that area. For the ECR survey area, both stocks could occur in the area, so BPW calculated separate mean seasonal densities for the portion that is less than 20 m in depth and for the portion that is greater than 20 m in depth to use in estimating take of the Coastal and Offshore Stocks of bottlenose

dolphins, respectively. Additionally, different trackline totals were used to calculate take of either the Coastal or Offshore Stocks of bottlenose dolphins (6,945 km trackline of Offshore Stock and 6, 323 km trackline of the Coastal Stock).

Furthermore, the Roberts and Halpin (2022) density model does not differentiate between the different pinniped species. For seals, given their size and behavior when in the water, seasonality, and feeding preferences, there is limited information available on species-specific distribution. Density estimates of Roberts and Halpin (2022) include all seal species that may occur in the Western North Atlantic combined (*i.e.,* harbor, gray, hooded, and harp). For this IHA, only the harbor seals and gray seals are reasonably expected to occur in the survey area; so densities of seals were split evenly between these two species.

Lastly, the Roberts and Halpin (2022) density model does not differentiate between the pilot whale species. We assume that all pilot whales near the project area would be long-finned pilot whales due to their range overlapping with the survey area and short-finned pilot whales are not anticipated to occur as far north as the survey area. For this IHA, densities of pilot whales are assumed to be only long-finned pilot whale.

Take Estimation

Here we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and is authorized.

In order to estimate the number of marine mammals predicted to be exposed to sound levels that would result in harassment, radial distances to predicted isopleths corresponding to Level B harassment thresholds are calculated, as described above. The maximum distance (*i.e.,* 141-m distance associated with the Dual Geo-Spark 2000X and 41 distance associated with the Applied Acoustics S-Boom) to the Level B harassment criterion and the total length of the survey trackline are then used to calculate the total ensonified area, or zone of influence (ZOI) around the survey vessel.

As mentioned above, there are two possible options for BPW's surveys in the Lease area using the Dual Geo-Spark 2000X.

1. One Dual Geo-Spark 2000X would be used at a minimum of 30 m line spacing with tieline spacing of 500 m for a total survey distance of 9,923 km in the Lease Area.

2. Up to four Dual Geo-Spark 2000X would be towed to conduct an Ultra High Resolution 3-dimensional (UHR3D) survey. The sparkers would be fired sequentially such that only one is fired at a time with 0.33 seconds between shots. The sparkers would be physically spaced 25 m apart for a total spread of 75 m. The tracklines would be similar to those for the single sparker; however, they would be spaced a minimum of 43.75 m apart with tielines spaced at 500 m for a shorter total survey distance of 6,814 km.

Since either option may be used, BPW is requesting take based on the worst-case-scenario between the two options which is Option 1 the single Dual Geo-Spark 2000X—based on maximum total line-km.

In the ECR area, either the boomer or sparker will be used. Regardless of which system is used, BPW plans to conduct the survey with a minimum of 30 m line spacing and tielines spaced at 500 m intervals in Federal waters through potential cable corridors and at a minimum of 15 m line spacing and tielines spaced at 500 m in State waters (to meet State requirements) for a total of 13,268 km of combined tracklines and tielines. Because either method may be used, BPW is requesting take based on the worst-case-scenario between the two methods—the single Dual Geo- Spark 2000X—based on the largest estimated distance to the harassment criterion.

BPW estimates that the surveys will complete a total of 9,923 km survey trackline in the lease area and 13,268 km trackline in the ECR area. Based on the maximum estimated distance to the Level B harassment threshold of 141-m and the total survey

length, the total ensonified area is therefore 2,799 km^2 for the lease area and 3,742 km^2 in the ECR area based on the following formula:

$ZOI = (\text{Total survey length} \times 2r) + \pi r^2$

Where: total survey length= the total distance of the survey track lines within the lease area and r = the maximum radial distance from a given sound source to the Level B harassment threshold.

This is a conservative estimate as it assumes the HRG source that results in the greatest isopleth distance to the Level B harassment threshold would be operated at all times during the entire survey, which may not ultimately occur and assumes the worst case scenario is the scenario chosen for the surveys.

The number of marine mammals expected to be incidentally taken during the total survey is then calculated by estimating the number of each species predicted to occur within the ensonified area (animals/km^2), incorporating the greatest seasonal estimated marine mammal densities as described above. The product is then rounded, to generate an estimate of the total number of instances of harassment expected for each species over the duration of the survey. A summary of this method is illustrated in the following formula with the resulting take of marine mammals shown below in Table 5:

$\text{Estimated Take} = D \times ZOI$

Where: *D* = greatest average seasonal species density (per km^2) and *ZOI* = maximum daily ensonified area to relevant thresholds.

Table 5—Estimated Take numbers and Total Take Authorized

Species	Estimated take – Lease Area	Estimated take – ECR Area	Total Take Authorized	Percent of Abundance
North Atlantic right whale	7	7	14	4.1%
Humpback whale	21	15	36	2.6%
Fin whale	61	25	86	1.3%
Sei whale	12	8	20	0.32%
Minke whale	96	108	204	0.93%
Sperm whale	4	2	6	0.14%
Long-finned pilot whale	54	14	68	0.17%
Bottlenose dolphin (W.N. Atlantic Offshore)	387	315[1]	702	1.1%
Bottlenose dolphin (Northern Migratory Coastal)	0	1659[2]	1659	25%
Common dolphin	3467	1267	4734	2.7%
Atlantic white-sided dolphin	299	134	432	0.46%
Atlantic spotted dolphin	167	54	221	0.55%
Risso's dolphin	37	15	52	0.15%
Harbor porpoise	657	655	1312	1.4%
Harbor seal	194	985	1179	1.9%
Gray seal[a]	194	985	1179	0.26%

[a]This abundance estimate is the total stock abundance (including animals in Canada). The NMFS stock abundance estimate for US population is only 27,300.

Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, NMFS considers two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, and impact on operations.

The following mitigation measures must be implemented during BPW's planned marine site characterization surveys. Pursuant to section 7 of the ESA, BPW would also be required to adhere to relevant Project Design Criteria (PDC) of the NMFS' Greater Atlantic Regional Fisheries Office (GARFO) programmatic consultation (specifically PDCs 4, 5, and 7) regarding geophysical surveys along the U.S. Atlantic coast (*https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-take-reporting-programmatics-greater-atlantic#offshore-wind-site-assessment-and-site-characterization-activities-programmatic-consultation*).

Visual Monitoring and Shutdown Zones

BPW must employ independent, dedicated, trained PSOs, meaning that the PSOs must (1) be employed by a third-party observer provider, (2) have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of marine mammals and mitigation requirements (including brief alerts regarding maritime hazards), and (3) have successfully completed an approved PSO training course appropriate for geophysical surveys. Visual monitoring must be performed by qualified, NMFS-approved PSOs. PSO resumes must be provided to NMFS for review and approval prior to the start of survey activities.

During survey operations (*e.g.,* any day on which use of the sparker or boomer sources is planned to occur, and whenever the sparker or boomer source is in the water, whether activated or not), a minimum of one visual marine mammal observer (PSO) must be on duty on each source vessel and conducting visual observations at all times during daylight hours (*i.e.,* from 30 minutes prior to sunrise through 30 minutes following sunset). A minimum of two PSOs must be on duty on each source vessel during nighttime hours. Visual monitoring must begin no less than 30 minutes prior to ramp-up (described below) and must continue until one hour after use of the sparker or boomer source ceases.

Visual PSOs shall coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts and shall conduct visual observations using binoculars and the naked eye while free from distractions and in a consistent, systematic, and diligent manner. PSOs shall establish and monitor applicable shutdown zones (see below). These zones shall be based upon the radial distance from the sparker or boomer source (rather than being based around the vessel itself).

Three shutdown zones are defined, depending on the species and context. Here, an extended shutdown zone encompassing the area at and below the sea surface out to a radius of 500 meters from the sparker or boomer source (0-500 meters) is defined for North Atlantic right whales. For all other marine mammals, the shutdown zone encompasses a standard distance of 100 meters (0-100 meters). If the boomer is used, the shutdown zone for all non-listed marine mammals is reduced to 50 meters. Any observations of marine mammals by crew members aboard any vessel associated with the survey shall be relayed to the PSO team.

Visual PSOs may be on watch for a maximum of four consecutive hours followed by a break of at least one hour between watches and may conduct a maximum of 12 hours of observation per 24-hour period.

Pre-Start Clearance and Ramp-up Procedures

A ramp-up procedure, involving a gradual increase in source level output, is required at all times as part of the activation of the sparker and boomer sources when technically feasible. Operators should ramp up sparker and boomer to half power for 5 minutes and then proceed to full power. A 30-minute pre-start clearance observation period must occur prior to the start of ramp-up. The intent of the pre-start clearance observation period (30 minutes) is to ensure no marine mammals are within the shutdown zones prior to the beginning of ramp-up. The intent of the ramp-up is to warn marine mammals of pending operations and to allow sufficient time for those animals to leave the immediate

vicinity. All operators must adhere to the following pre-start clearance and ramp-up requirements:

- The operator must notify a designated PSO of the planned start of ramp-up as agreed upon with the lead PSO; the notification time should not be less than 60 minutes prior to the planned ramp-up in order to allow the PSOs time to monitor the shutdown zones for 30 minutes prior to the initiation of ramp-up (pre-start clearance). During this 30 minute pre-start clearance period the entire shutdown zone must be visible, except as indicated below.
- Ramp-ups shall be scheduled so as to minimize the time spent with the source activated.
- A visual PSO conducting pre-start clearance observations must be notified again immediately prior to initiating ramp-up procedures and the operator must receive confirmation from the PSO to proceed.
- Any PSO on duty has the authority to delay the start of survey operations if a marine mammal is detected within the applicable pre-start clearance zone.
- The operator must establish and maintain clear lines of communication directly between PSOs on duty and crew controlling the acoustic source to ensure that mitigation commands are conveyed swiftly while allowing PSOs to maintain watch.

• The pre-start clearance requirement is waived for small delphinids and pinnipeds. Detection of a small delphinid (individual belonging to the following genera of the Family Delphinidae: *Steno, Delphinus, Lagenorhynchus, Stenella,* and *Tursiops*) or pinniped within the shutdown zone does not preclude beginning of ramp-up, unless the PSO confirms the individual to be of a genus other than those listed, in which case normal pre-clearance requirements apply.

• If there is uncertainty regarding identification of a marine mammal species (*i.e.,* whether the observed marine mammal(s) belongs to one of the delphinid genera for which the pre-clearance requirement is waived), PSOs may use best professional judgment in making the decision to call for a shutdown.

- Ramp-up may not be initiated if any marine mammal to which the pre-start clearance requirement applies is within the shutdown zone. If a marine mammal is observed within the shutdown zone during the 30 minute pre-start clearance period, ramp-up may not begin until the animal(s) has been observed exiting the zones or until an additional time period has elapsed with no further sightings (30 minutes for all baleen whale species and sperm whales and 15 minutes for all other species).
- PSOs must monitor the shutdown zones 30 minutes before and during ramp-up, and ramp-up must cease and the source must be shut down upon observation of a marine mammal within the applicable shutdown zone.
- Ramp-up may occur at times of poor visibility, including nighttime, if appropriate visual monitoring has occurred with no detections of marine mammals in the 30 minutes prior to beginning ramp-up. Sparker or boomer activation may only occur at night where operational planning cannot reasonably avoid such circumstances.

• If the acoustic source is shut down for brief periods (*i.e.,* less than 30 minutes) for reasons other than implementation of prescribed mitigation (*e.g.,* mechanical difficulty), it may be activated again without ramp-up if PSOs have maintained constant visual observation and no detections of marine mammals have occurred within the applicable shutdown zone. For any longer shutdown, pre-start clearance observation and ramp-up are required.

Shutdown Procedures

All operators must adhere to the following shutdown requirements:

- Any PSO on duty has the authority to call for shutdown of the sparker or boomer source if a marine mammal is detected within the applicable shutdown zone.
- The operator must establish and maintain clear lines of communication directly between PSOs on duty and crew controlling the source to ensure that shutdown commands are conveyed swiftly while allowing PSOs to maintain watch.
- When the sparker or boomer source is active and a marine mammal appears within or enters the applicable shutdown zone, the source must be shut down. When shutdown is instructed by a PSO, the sparker or boomer source must be immediately deactivated and any dispute resolved only following deactivation.

• The shutdown requirement is waived for small delphinids and pinnipeds. If a small delphinid (individual belonging to the following genera of the Family Delphinidae: *Steno, Delphinus, Lagenorhynchus, Stenella,* and *Tursiops*) or pinniped is visually detected within the shutdown zone, no shutdown is required unless the PSO confirms the individual to be of a genus other than those listed, in which case a shutdown is required.

• If there is uncertainty regarding identification of a marine mammal species (*i.e.,* whether the observed marine mammal(s) belongs to one of the delphinid genera for which shutdown is waived or one of the species with a larger shutdown zone), PSOs may use best professional judgment in making the decision to call for a shutdown.

- Upon implementation of shutdown, the source may be reactivated after the marine mammal has been observed exiting the applicable shutdown zone or following a clearance period (30 minutes for all baleen whale species and sperm whales and 15 minutes for all other species) with no further detection of the marine mammal.

If a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized number of takes have been met, approaches or is observed within the Level B harassment zone, shutdown would occur.

Vessel Strike Avoidance

Crew and supply vessel personnel should use an appropriate reference guide that includes identifying information on all marine mammals that may be encountered. Vessel operators must comply with the below measures except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question. These requirements do not apply in any case where compliance would create an imminent and serious threat to a person or vessel or to the extent that a vessel is restricted in its ability to maneuver and, because of the restriction, cannot comply.

• Vessel operators and crews must maintain a vigilant watch for all marine mammals and slow down, stop their vessel(s), or alter course, as appropriate and regardless of vessel size, to avoid striking any marine mammals. A single marine mammal at the surface may indicate the presence of submerged animals in the vicinity of the vessel; therefore, precautionary measures should always be exercised. A visual observer aboard the vessel must monitor a vessel strike avoidance zone around the vessel (species-specific distances are detailed below). Visual observers monitoring the vessel strike avoidance zone may be third-party observers (*i.e.,* PSOs) or crew members, but crew members responsible for these duties must be provided sufficient training to (1) distinguish marine mammal from other phenomena and (2) broadly to identify a marine mammal as a North Atlantic right whales, other whale (defined in this context as sperm whales or baleen whales other than North Atlantic right whales), or other marine mammals.

• All survey vessels, regardless of size, must observe a 10-knot speed restriction in specific areas designated by NMFS for the protection of North Atlantic right whales from vessel strikes. These include all Seasonal Management Areas (SMA) established under 50 CFR 224.105 (when in effect), any dynamic management areas (DMA) (when in effect), and Slow Zones. See *www.fisheries.noaa.gov/national/endangered-species-*

conservation/reducing-ship-strikes-north-atlantic-right-whales for specific detail regarding these areas.

- All vessels must reduce speed to 10 knots or less when mother/calf pairs, pods, or large assemblages of cetaceans are observed near a vessel.
- All vessels must maintain a minimum separation distance of 500 m from North Atlantic right whales. If a North Atlantic right whale is sighted within the relevant separation distance, the vessel must steer a course away at 10 kn (18.5 km/hour) or less until the 500-m separation distance has been established. If a whale is observed but cannot be confirmed as a species other than a North Atlantic right whales, the vessel operator must assume that it is a North Atlantic right whales and take appropriate action.
- All vessels must maintain a minimum separation distance of 100 m from sperm whales and all other baleen whales.

• All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all other marine mammals, with an understanding that at times this may not be possible (*e.g.,* for animals that approach the vessel).

• When marine mammals are sighted while a vessel is underway, the vessel must take action as necessary to avoid violating the relevant separation distance (*e.g.,* attempt to remain parallel to the animal's course, avoid excessive speed or abrupt changes in direction until the animal has left the area, reduce speed and shift the engine to neutral). This does not apply to any vessel towing gear or any vessel that is navigationally constrained.

Members of the PSO team will consult NMFS North Atlantic right whales reporting system and Whale Alert, daily and as able, for the presence of North Atlantic right whales throughout survey operations, and for the establishment of DMAs and/or

Slow Zones. It is BPW's responsibility to maintain awareness of the establishment and location of any such areas and to abide by these requirements accordingly.

Seasonal Operating Requirements

As described above, a section of the survey area partially overlaps with a portion of a North Atlantic right whales SMA off the port of New York/New Jersey. This SMA is active from November 1 through April 30 of each year. The survey vessel, regardless of length, would be required to adhere to vessel speed restrictions (<10 kn (18.5 km/hour)) when operating within the SMA during times when the SMA is active.

Table 6 – North Atlantic Right Whale Dynamic Management Area (DMA) and Seasonal Management Area (SMA) Restrictions Within The Survey Areas

Survey area	Species	DMA restrictions	Slow zones	SMA restrictions
Lease Area	North Atlantic right whale (*Eubalaena glacialis*)	If established by NMFS, all of BPW's vessel will abide by the described restrictions		N/A
ECR North				November 1 through July 31 (Raritan Bay)
ECR South				N/A
More information on Ship Strike Reduction for the North Atlantic right whales can be found at NMFS' website: *https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales*				

Based on our evaluation of the applicant's measures, as well as other measures considered by NMFS, NMFS has determined that the mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;

- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and,
- Mitigation and monitoring effectiveness.

Monitoring Measures

BPW must use independent, dedicated, trained PSOs, meaning that the PSOs must be employed by a third-party observer provider, must have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of marine mammal and mitigation requirements (including brief alerts regarding maritime hazards), and must have successfully completed an approved PSO training course for geophysical surveys. Visual monitoring must be performed by qualified, NMFS-approved PSOs. PSO resumes must be provided to NMFS for review and approval prior to the start of survey activities.

PSO names must be provided to NMFS by the operator for review and confirmation of their approval for specific roles prior to commencement of the survey. For prospective PSOs not previously approved, or for PSOs whose approval is not current, NMFS must review and approve PSO qualifications. Resumes should include information related to relevant education, experience, and training, including dates, duration, location, and description of prior PSO experience. Resumes must be accompanied by relevant documentation of successful completion of necessary training.

NMFS may approve PSOs as conditional or unconditional. A conditionally-approved PSO may be one who is trained but has not yet attained the requisite experience. An unconditionally-approved PSO is one who has attained the necessary experience. For unconditional approval, the PSO must have a minimum of 90 days at sea performing the role during a geophysical survey, with the conclusion of the most recent relevant experience not more than 18 months previous.

At least one of the visual PSOs aboard the vessel must be unconditionally-approved. One unconditionally-approved visual PSO shall be designated as the lead for the entire PSO team. This lead should typically be the PSO with the most experience, who would coordinate duty schedules and roles for the PSO team and serve as primary point of contact for the vessel operator. To the maximum extent practicable, the duty schedule shall be planned such that unconditionally-approved PSOs are on duty with conditionally-approved PSOs.

At least one PSO aboard each acoustic source vessel must have a minimum of 90 days at-sea experience working in the role, with no more than eighteen months elapsed since the conclusion of the at-sea experience. One PSO with such experience must be designated as the lead for the entire PSO team and serve as the primary point of contact for the vessel operator. (Note that the responsibility of coordinating duty schedules and roles may instead be assigned to a shore-based, third-party monitoring coordinator.) To the maximum extent practicable, the lead PSO must devise the duty schedule such that experienced PSOs are on duty with those PSOs with appropriate training but who have not yet gained relevant experience.

PSOs must successfully complete relevant training, including completion of all required coursework and passing (80 percent or greater) a written and/or oral examination developed for the training program.

PSOs must have successfully attained a bachelor's degree from an accredited college or university with a major in one of the natural sciences, a minimum of 30 semester hours or equivalent in the biological sciences, and at least one undergraduate course in math or statistics. The educational requirements may be waived if the PSO has acquired the relevant skills through alternate experience. Requests for such a waiver shall be submitted to NMFS and must include written justification. Alternate experience that may be considered includes, but is not limited to (1) secondary education and/or

experience comparable to PSO duties; (2) previous work experience conducting academic, commercial, or government-sponsored marine mammal surveys; and (3) previous work experience as a PSO (PSO must be in good standing and demonstrate good performance of PSO duties).

BPW must work with the selected third-party PSO provider to ensure PSOs have all equipment (including backup equipment) needed to adequately perform necessary tasks, including accurate determination of distance and bearing to observed marine mammals, and to ensure that PSOs are capable of calibrating equipment as necessary for accurate distance estimates and species identification. Such equipment, at a minimum, shall include:

- At least one thermal (infrared) imagine device suited for the marine environment;
- Reticle binoculars (*e.g.*, 7 x 50) of appropriate quality (at least one per PSO, plus backups);
- Global Positioning Units (GPS) (at least one plus backups);
- Digital cameras with a telephoto lens that is at least 300-mm or equivalent on a full-frame single lens reflex (SLR) (at least one plus backups). The camera or lens should also have an image stabilization system;
- Equipment necessary for accurate measurement of distances to marine mammal;
- Compasses (at least one plus backups);
- Means of communication among vessel crew and PSOs; and
- Any other tools deemed necessary to adequately and effectively perform PSO tasks.

The equipment specified above may be provided by an individual PSO, the third-party PSO provider, or the operator, but BPW is responsible for ensuring PSOs have the proper equipment required to perform the duties specified in the IHA.

The PSOs will be responsible for monitoring the waters surrounding the survey vessel to the farthest extent permitted by sighting conditions, including Shutdown Zones, during all HRG survey operations. PSOs will visually monitor and identify marine mammals, including those approaching or entering the established Shutdown Zones during survey activities. It will be the responsibility of the PSO(s) on duty to communicate the presence of marine mammals as well as to communicate the action(s) that are necessary to ensure mitigation and monitoring requirements are implemented as appropriate.

PSOs must be equipped with binoculars and have the ability to estimate distance and bearing to detect marine mammals, particularly in proximity to Shutdown Zones. Reticulated binoculars must also be available to PSOs for use as appropriate based on conditions and visibility to support the sighting and monitoring of marine mammals. During nighttime operations, night-vision goggles with thermal clip-ons and infrared technology would be used. Position data would be recorded using hand-held or vessel GPS units for each sighting.

During good conditions (*e.g.*, daylight hours; Beaufort sea state (BSS) 3 or less), to the maximum extent practicable, PSOs would also conduct observations when the acoustic source is not operating for comparison of sighting rates and behavior with and without use of the active acoustic sources. Any observations of marine mammals by crew members aboard the vessel associated with the survey would be relayed to the PSO team. Data on all PSO observations would be recorded based on standard PSO collection requirements (see *Reporting Measures*). This would include dates, times, and locations of survey operations; dates and times of observations, location and weather; details of

marine mammal sightings (*e.g.*, species, numbers, behavior); and details of any observed marine mammal behavior that occurs (*e.g.*, noted behavioral disturbances). Members of the PSO team shall consult the NMFS North Atlantic right whales reporting system and Whale Alert, daily and as able, for the presence of North Atlantic right whales throughout survey operations.

Reporting Measures

BPW shall submit a draft comprehensive report to NMFS on all activities and monitoring results within 90 days of the completion of the survey or expiration of the IHA, whichever comes sooner. The report must describe all activities conducted and sightings of marine mammals, must provide full documentation of methods, results, and interpretation pertaining to all monitoring, and must summarize the dates and locations of survey operations and all marine mammals sightings (dates, times, locations, activities, associated survey activities). The draft report shall also include geo-referenced, time-stamped vessel tracklines for all time periods during which acoustic sources were operating. Tracklines should include points recording any change in acoustic source status (*e.g.*, when the sources began operating, when they were turned off, or when they changed operational status such as from full array to single gun or vice versa). GIS files shall be provided in Environmental Systems Research Institute, Inc (ESRI) shapefile format and include the Coordinated Universal Time (UTC) date and time, latitude in decimal degrees, and longitude in decimal degrees. All coordinates shall be referenced to the WGS84 geographic coordinate system. In addition to the report, all raw observational data shall be made available. The report must summarize the information. A final report must be submitted within 30 days following resolution of any comments on the draft report. All draft and final marine mammal monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov, nmfs.gar.incidental-take@noaa.gov* and *ITP.Harlacher@noaa.gov*.

PSOs must use standardized electronic data forms to record data. PSOs shall record detailed information about any implementation of mitigation requirements, including the distance of marine mammal to the acoustic source and description of specific actions that ensued, the behavior of the animal(s), any observed changes in behavior before and after implementation of mitigation, and if shutdown was implemented, the length of time before any subsequent ramp-up of the acoustic source. If required mitigation was not implemented, PSOs should record a description of the circumstances. At a minimum, the following information must be recorded:

1. Vessel names (source vessel), vessel size and type, maximum speed capability of vessel;
2. Dates of departures and returns to port with port name;
3. PSO names and affiliations;
4. Date and participants of PSO briefings;
5. Visual monitoring equipment used;
6. PSO location on vessel and height of observation location above water surface;
7. Dates and times (Greenwich Mean Time) of survey on/off effort and times corresponding with PSO on/off effort;
8. Vessel location (decimal degrees) when survey effort begins and ends and vessel location at beginning and end of visual PSO duty shifts;
9. Vessel location at 30-second intervals if obtainable from data collection software, otherwise at practical regular interval;
10. Vessel heading and speed at beginning and end of visual PSO duty shifts and upon any change;
11. Water depth (if obtainable from data collection software);

12. Environmental conditions while on visual survey (at beginning and end of PSO shift and whenever conditions change significantly), including BSS and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon;

13. Factors that may contribute to impaired observations during each PSO shift change or as needed as environmental conditions change (*e.g.*, vessel traffic, equipment malfunctions); and

14. Survey activity information (and changes thereof), such as acoustic source power output while in operation, number and volume of airguns operating in an array, tow depth of an acoustic source, and any other notes of significance (*i.e.*, pre-start clearance, ramp-up, shutdown, testing, shooting, ramp-up completion, end of operations, streamers, *etc.*).

15. Upon visual observation of any marine mammal, the following information must be recorded:

a. Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);

b. Vessel/survey activity at time of sighting (*e.g.*, deploying, recovering, testing, shooting, data acquisition, other);

c. PSO who sighted the animal;

d. Time of sighting;

e. Initial detection method;

f. Sightings cue;

g. Vessel location at time of sighting (decimal degrees);

h. Direction of vessel's travel (compass direction);

i. Speed of the vessel(s) from which the observation was made;

j. Identification of the animal (*e.g.*, genus/species, lowest possible taxonomic level or unidentified); also note the composition of the group if there is a mix of species;

k. Species reliability (an indicator of confidence in identification);

l. Estimated distance to the animal and method of estimating distance;

m. Estimated number of animals (high/low/best);

n. Estimated number of animals by cohort (adults, yearlings, juveniles, calves, group composition, *etc.*);

o. Description (as many distinguishing features as possible of each individual seen, including length, shape, color, pattern, scars, or markings, shape and size of dorsal fin, shape of head, and blow characteristics);

p. Detailed behavior observations (*e.g.*, number of blows/breaths, number of surfaces, breaching, spyhopping, diving, feeding, traveling; as explicit and detailed as possible; note any observed changes in behavior before and after point of closest approach);

q. Mitigation actions; description of any actions implemented in response to the sighting (*e.g.*, delays, shutdowns, ramp-up, speed or course alteration, *etc*.) and time and location of the action;

r. Equipment operating during sighting;

s. Animal's closest point of approach and/or closest distance from the center point of the acoustic source; and

t. Description of any actions implemented in response to the sighting (*e.g.*, delays, shutdown, ramp-up) and time and location of the action.

If a North Atlantic right whales is observed at any time by PSOs or personnel on the project vessel, during surveys or during vessel transit, BPW must report the sighting information to the NMFS North Atlantic right whales Sighting Advisory System (866-

755-6622) within 2 hours of occurrence, when practicable, or no later than 24 hours after occurrence. North Atlantic right whales sightings in any location may also be reported to the U.S. Coast Guard via channel 16 and through the WhaleAlert app (*http://www.whalealert.org*).

In the event that personnel involved in the survey activities discover an injured or dead marine mammal, the incident must be reported to NMFS as soon as feasible by phone (866-755-6622) and by email (*nmfs.gar.stranding@noaa.gov* and *PR.ITP.MonitoringReports@noaa.gov*). The report must include the following information:

1. Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
2. Species identification (if known) or description of the animal(s) involved;
3. Condition of the animal(s) (including carcass condition if the animal is dead);
4. Observed behaviors of the animal(s), if alive;
5. If available, photographs or video footage of the animal(s); and
6. General circumstances under which the animal was discovered.

In the event of a ship strike of a marine mammal by any vessel involved in the activities, BPW must report the incident to NMFS by phone (866-755-6622) and by email (*nmfs.gar.stranding@noaa.gov* and *PR.ITP.MonitoringReports@noaa.gov*) as soon as feasible. The report would include the following information:

1. Time, date, and location (latitude/longitude) of the incident;
2. Species identification (if known) or description of the animal(s) involved;
3. Vessel's speed during and leading up to the incident;
4. Vessel's course/heading and what operations were being conducted (if applicable);

5. Status of all sound sources in use;

6. Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid strike;

7. Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike;

8. Estimated size and length of animal that was struck;

9. Description of the behavior of the marine mammal immediately preceding and/or following the strike;

10. If available, description of the presence and behavior of any other marine mammals immediately preceding the strike;

11. Estimated fate of the animal (*e.g.*, dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and

12. To the extent practicable, photographs or video footage of the animal(s).

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.*, intensity, duration), the context of any impacts or responses (*e.g.*, critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by

evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, the majority of our analysis applies to all the species listed in Table 1, given that some of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks, or groups of species, in anticipated individual responses to activities, impact of expected take on the population due to differences in population status, or impacts on habitat, they are included as separate subsections below. Specifically, we provide additional discussion related to North Atlantic right whales and to other species currently experiencing UMEs.

NMFS does not anticipate that serious injury or mortality would occur as a result from HRG surveys, even in the absence of mitigation, and no serious injury or mortality is authorized. As discussed in the **Potential Effects of Specified Activities on Marine Mammals and their Habitat** section, non-auditory physical effects, auditory physical effects, and vessel strike are not expected to occur. NMFS expects that all potential takes would be in the form of Level B harassment in the form of temporary avoidance of the area or decreased foraging (if such activity was occurring), reactions that are considered to be of low severity and with no lasting biological consequences (*e.g.*, Southall *et al.*, 2007; Ellison *et al.,* 2012).

In addition to being temporary, the maximum expected harassment zone around a survey vessel is 141-m. Therefore, the ensonified area surrounding each vessel is relatively small compared to the overall distribution of the animals in the area and their

use of the habitat. Feeding behavior is not likely to be significantly impacted as prey species are mobile and are broadly distributed throughout the survey area; therefore, marine mammals that may be temporarily displaced during survey activities are expected to be able to resume foraging once they have moved away from areas with disturbing levels of underwater noise. Because of the temporary nature of the disturbance and the availability of similar habitat and resources in the surrounding area, the impacts to marine mammals and the food sources that they utilize are not expected to cause significant or long-term consequences for individual marine mammals or their populations.

There are no rookeries, mating or calving grounds known to be biologically important to marine mammals within the planned survey area and there are no feeding areas known to be biologically important to marine mammals within the survey area. There is no designated critical habitat for any ESA-listed marine mammals in the survey area.

North Atlantic Right Whales

The status of the North Atlantic right whale population is of heightened concern and, therefore, merits additional analysis. As noted previously, elevated North Atlantic right whales mortalities began in June 2017 and there is an active UME. Overall, preliminary findings attribute human interactions, specifically vessel strikes and entanglements, as the cause of death for the majority of North Atlantic right whales. As noted previously, the survey area overlaps a migratory corridor BIA for North Atlantic right whales that extends from Massachusetts to Florida and from the coast to beyond the shelf break. Due to the fact that the planned survey activities are temporary (will occur for up to one year) and the spatial extent of sound produced by the survey would be small relative to the spatial extent of the available migratory habitat in the BIA, North Atlantic right whale migration is not expected to be impacted by the survey. This important migratory area is approximately 269,488 km^2 in size (compared with the worst case

scenario of approximately 6,541 km^2 of total estimated Level B harassment ensonified area associated with both the Lease Area and the ECR area surveys) and is comprised of the waters of the continental shelf offshore the East Coast of the United States, extending from Florida through Massachusetts.

Given the relatively small size of the ensonified area, it is unlikely that prey availability would be adversely affected by HRG survey operations. Required vessel strike avoidance measures will also decrease risk of ship strike during migration; no ship strike is expected to occur during BPW's planned activities. Additionally, only very limited take by Level B harassment of North Atlantic right whales has been requested and is being authorized by NMFS as HRG survey operations are required to maintain and implement a 500 m shutdown zone. The 500-m shutdown zone for North Atlantic right whales is conservative, considering the Level B harassment isopleth for the most impactful acoustic source (*i.e.*, sparker) is estimated to be 141-m, and thereby minimizes the potential for behavioral harassment of this species. As noted previously, Level A harassment is not expected due to the small estimated zones in conjunction with the aforementioned shutdown requirements. NMFS does not anticipate North Atlantic right whales takes that would result from BPW's planned activities would impact annual rates of recruitment or survival. Thus, any takes that occur would not result in population level impacts.

Other Marine Mammal Species with Active UMEs

As noted previously, there are several active UMEs occurring in the vicinity of BPW's survey area. Elevated humpback whale mortalities have occurred along the Atlantic coast from Maine through Florida since January 2016. Of the cases examined, approximately half had evidence of human interaction (ship strike or entanglement). The UME does not yet provide cause for concern regarding population-level impacts. Despite

the UME, the relevant population of humpback whales (the West Indies breeding population, or DPS) remains stable at approximately 12,000 individuals.

Beginning in January 2017, elevated minke whale strandings have occurred along the Atlantic coast from Maine through South Carolina, with highest numbers in Massachusetts, Maine, and New York. This event does not provide cause for concern regarding population level impacts, as the likely population abundance is greater than 20,000 whales.

Elevated numbers of harbor seal and gray seal mortalities were first observed between 2018-2020 and, as part of a separate UME, again in 2022. These have occurred across Maine, New Hampshire, and Massachusetts. Based on tests conducted so far, the main pathogen found in the seals is phocine distemper virus (2018-2020) and avian influenza (2022), although additional testing to identify other factors that may be involved in the UMEs is underway. The UMEs do not provide cause for concern regarding population-level impacts to any of these stocks. For harbor seals, the population abundance is over 60,000 and annual M/SI (339) is well below PBR (1,729) (Hayes *et al.,* 2021). The population abundance for gray seals in the United States is over 27,000, with an estimated abundance, including seals in Canada, of approximately 450,000. In addition, the abundance of gray seals is likely increasing in the U.S. Atlantic as well as in Canada (Hayes *et al.,* 2021).

The required mitigation measures are expected to reduce the number and/or severity of takes for all species listed in Table 1, including those with active UMEs, to the level of least practicable adverse impact. In particular, they would provide animals the opportunity to move away from the sound source before HRG survey equipment reaches full energy, thus preventing them from being exposed to sound levels that have the potential to cause injury. No Level A harassment is anticipated, even in the absence of mitigation measures, or authorized.

NMFS expects that takes would be in the form of short-term Level B harassment by way of brief startling reactions and/or temporary vacating of the area, or decreased foraging (if such activity was occurring)—reactions that (at the scale and intensity anticipated here) are considered to be of low severity, with no lasting biological consequences. Since both the sources and marine mammals are mobile, animals would only be exposed briefly to a small ensonified area that might result in take. Additionally, required mitigation measures would further reduce exposure to sound that could result in more severe behavioral harassment.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect any of the species or stocks through effects on annual rates of recruitment or survival:

- No serious injury or mortality is anticipated or authorized;
- No Level A harassment (PTS) is anticipated, even in the absence of mitigation measures, or authorized;
- Foraging success is not likely to be significantly impacted as effects on species that serve as prey species for marine mammals from the survey are expected to be minimal;
- The availability of alternate areas of similar habitat value for marine mammals to temporarily vacate the ensonified areas during the planned survey to avoid exposure to sounds from the activity;
- Take is anticipated to be by Level B harassment only consisting of brief startling reactions and/or temporary avoidance of the ensonified area;
- Survey activities would occur in such a comparatively small portion of the BIA for North Atlantic right whale migration that any avoidance of the area due to survey activities would not affect migration. In addition, mitigation

measures require shutdown at 500 m (almost four times the size of the Level B harassment isopleth of 141 m) to minimize the effects of any Level B harassment take of the species; and

- The mitigation measures, including visual monitoring and shutdowns are expected to minimize potential impacts to marine mammals.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted previously, only take of small numbers of marine mammals may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

NMFS authorizes incidental take by Level B harassment only of 15 marine mammal species with 16 managed stocks. The total amount of takes authorized relative to the best available population abundance is less than 5 percent for 15 stocks and 25 percent for the remaining stock (Western North Atlantic Migratory Coastal Stock of Bottlenose dolphins) (Table 5). The take numbers authorized are considered conservative

estimates for purposes of the small numbers determination as they assume all takes represent different individual animals, which is unlikely to be the case.

Based on the analysis contained herein of the planned activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals would be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq*.) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species.

NMFS Office of Protected Resources (OPR) has authorized take of four species of marine mammals which are listed under the ESA, including the North Atlantic right, fin, sei, and sperm whale, and has determined that these activities fall within the scope of activities analyzed in NMFS Greater Atlantic Regional Fisheries Office's (GARFO) programmatic consultation regarding geophysical surveys along the U.S. Atlantic coast in the three Atlantic Renewable Energy Regions (completed June 29, 2021; revised September 2021).

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq*.) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our proposed action (*i.e.*, the issuance of an IHA) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Authorization

As a result of these determinations, NMFS has issued an IHA to BPW for conducting marine site characterization surveys in coastal waters off of New York and New Jersey in the New York Bight for a period of 1 year, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. The IHA can be found at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-bluepoint-wind-llc-marine-site-characterization-surveys-new.*

Dated: February 28, 2023.

Kimberly Damon-Randall,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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